

# New Stockpile Management Tools Support Army Readiness

BG James W. Rafferty, Jay Sloat and Cindy Lenger

**S**tockpiles of ammunition exist worldwide. Managing this stock ensures that U.S. forces will have ammunition where and when it's needed. Our Soldiers' lives quite literally depend on the Army's ability to provide the highest quality, ready-to-use ammunition. Two new tools — Munitions Readiness Reporting (MRR) and Centralized Ammunition Management (CAM) — are now available to help stockpile managers perform this important task.

MRR deals with readiness — where the ammunition is and is it ready for deployment — whereas CAM focuses on requirements in the field and inventory at depots, installations and other supply points. MRR is a broader report and rating system, a tool for decision makers. Its graphic format is designed to show managers at a glance where problems lie, if any. CAM enables managers to resupply ammunition to their customers instead of customers being responsible for reordering supplies. This centralized management strategy reduces lag time for delivery, provides a continuous supply of ammunition and more consolidated shipments, all of which helps lower costs.

## MRR

Just 2 days after the Sept. 11, 2001, attacks, U.S. Army Chief of Staff (CSA) GEN Eric K. Shinseki directed the Operations Support Command's (now Joint Munitions Command [JMC]) commander, to "develop a system for munitions that will portray the Army's ability to support contingency operations." As the Army's field operating activity for the DOD Single Manager for Conventional Ammunition, JMC is responsible for producing, storing, maintaining and demilitarizing ammunition for all military services. JMC operates a global network of installations, activities and forward support elements and was the logical group to respond to the CSA's challenge. The result is MRR.

MRR deals with readiness — where the ammunition is and is it ready for deployment — whereas CAM focuses on requirements in the field and inventory at depots, installations and other supply points. JMC is responsible for producing, storing, maintaining and demilitarizing ammunition for all military services. JMC operates a global network of installations, activities and forward support elements.

As a report and rating tool, MRR measures munitions readiness using the standard methodology for measuring unit readiness, a system that is familiar to most people in the Army. *Unit Status Reporting*, as outlined in *Army Regulation 220-1*, was modified to fit munitions areas rather than particular Army units. Thus, MRR rates readiness in specific munitions categories.

With *Unit Status Reporting*, S and R ratings are assigned to items and rolled up at the battalion level. T and P ratings are then added and C ratings are subsequently developed and reported at brigade and division levels. This is a well-established, proven process within the Army.

Similarly, in reporting munitions readiness, S, R, Q and B ratings are all assigned at the item level (model level). Roll up occurs at the subcategory level (i.e., 81mm mortars), and C ratings are developed at the munitions category level (i.e., mortar). This methodology is familiar and easy to understand as modified:

- S = Munitions on hand
- R = Munitions
- T = Training

- P = Personnel
- C = Composite
- Q = Munitions quality
- B = Production base

*Army Regulation 220-1* defines "pacing" items as key to a unit's capability to

support organic weapon systems. This concept is built into the MRR as well. Training-unique items are also included, because training is a critical element in measuring unit readiness. Substitute items — items that can be used if a preferred ammunition item is not available in sufficient quantity or are not available at all — are listed and individually rated by the MRR.

In the MRR, ratings for approximately 350 active Class V items are rolled into 42 subcategories which, in turn, determine composite ratings at 12 category levels. At the roll-up levels, ratings are color-coded and displayed graphically. Four rating levels, each represented by a unique color, define the readiness range in each resource area and for category evaluations. Various analogs are built into the system to compute and aggregate ratings.

- C-1 (green): Full mission capability; unlimited flexibility.
- C-2 (yellow): Mostly mission capable; isolated decreases in flexibility.
- C-3 (red): Can undertake many, but not all missions; significant decrease in flexibility.
- C-4 (black): Additional resources required.

The MRR is a Web-based system available only over the Secret Internet Protocol Router Network also known as SIPRNET, located at <http://207.85.78.130/mrr>. MRR screens are updated quarterly. However, as data feeds come closer to real time, screens will regenerate more often. For security reasons, an actual screen cannot be depicted. On an actual screen, each subcategory is displayed as a colored block connected by a vertical line to a category block. All blocks are labeled and annotated. Both the type of ammunition (for all blocks) and the critical ratings (for red and black blocks) are noted.



Aviation Ordnanceman Second Class Phillip Vaughan assigned to the "Redwolves" of Helicopter Combat Support Special Squadron Four pulls out 7.62mm ammunition for the GAU-17 mini-machine gun to prepare for a routine gun exercise aboard an HH-60H Seahawk helicopter, April 22, 2004, at Norfolk Naval Station, VA. (U.S. Navy photo by Photographer's Mate Michael Sandberg.)

On the right side of each block, there are four small "tabs." In addition to capturing current stockpile status, the MRR is also a predictive system that projects a readiness rating 6, 12, 18 and 24 months into the future. Predictions are based on planned consumption, scheduled new production receipts of ammunition from ammunition producers and maintenance schedules. The purple dots next to some of the blocks are a Joint base indicator. For these items, the industrial base supports more than one service.

With the colors, lines, blocks and circles, MRR is very graphic and very detailed. Click on any block and more in-depth information appears, such as actual assets and requirements by model. Assets are segregated into serviceable, unserviceable/limited restoration, emergency combat use only and unserviceable. Requirements are identified as war reserve and operational projects, pipeline, training, test and current operations.

All ratings — S, R, Q and B — are provided for current status, and S (supply) and R (serviceability) ratings are provided for the future in 6-month intervals out to 24 months. In addition to worldwide views, the viewer can also select U.S. Army Pacific, U.S. Army Europe, Stryker Brigade Combat Team, Army Pre-positioned Stocks and the combatant commands.

The MRR database includes both missiles and conventional ammunition and is an Army Ammunition Enterprise product, with many agencies contributing to the data. As a tool to assist in determining munitions capability to support the warfighter, MRR is a success. It helps determine what munitions to buy and maintain and also feeds the Class V readiness data into the Army's Strategic Readiness System.

MRR went online in early 2002 but the effort is ongoing. JMC will continue to develop improvements such as an increased modeling capability to allow "what-if" scenarios, the addition of Program Objective Memorandum budget data and contingency operations views. Finally, discussion is underway to combine the Army MRR with similar systems from the other services to create a Joint platform for munitions readiness reporting.

### CAM

CAM manages wholesale and retail ammunition as a unified whole. The JMC developed it as a result of a May 2002 briefing that the JMC commanding general delivered to the U.S. Army Forces Command commander (FORSCOM). Both

recognized the Army had not fully funded requirements for training or war reserve ammunition for at least 10 years, and that the Army needed a better way to distribute the ammunition stockpile to mitigate risk.

The JMC commander incorporated the concept into a Logistics Transformation Task Force (LTTTF). As a result, JMC has used Lean and Six Sigma principles to develop an efficient, effective process to manage ammunition assets. To date, LTTTF has:

- Mapped the current process with key stakeholders.
- Mapped the outloading processes at McAlester Army Ammunition Plant, OK; Crane Army Ammunition Activity, IN; Tooele Army Depot, UT; and Blue Grass Army Depot, KY.
- Implemented Six Sigma projects as part of the Ammunition Enterprise to include sourcing, the Regional Munitions Center concept and Ammunition Basic Load (ABL) process.
- Initiated process mapping in May 2004 for the OCONUS CAM process.

CAM's customer-focused process gives JMC the total asset visibility it requires and provides end-to-end tracking for the customer. The goal is to reduce the amount of ammunition stored at the Ammunition Supply Point (ASP) and move to a "just-in-time" delivery strategy. This process results in the development of relationships between the units and the Defense Munitions Centers

(DMCs) as well as an increased level of trust among stakeholders.

As a tool to assist in determining munitions capability to support the warfighter, MRR is a success. It helps determine what munitions to buy and maintain and also feeds the Class V readiness data into the Army's Strategic Readiness System.

CAM brings with it one important change — units will no longer have ammunition designated for their use alone. Ammunition requirements are aggregated and sourced at the regional level, resulting in better stock rotation, reduced transportation costs and improved distribution management.

The CAM concept begins and ends with the warfighter. Training authorizations and basic load requirements are assessed against stock on hand to determine correct stockage levels. Currently, there is one process for regular monthly forecasted training and an abbreviated process for unforecasted mobilization training requirements. Today, the Army resupplies 18 CONUS sites, former FORSCOM, U.S. Army South,

Military District of Washington and U.S. Army Medical Command installations.

In July 2004, resupply to an additional 15 former U.S. Army Training and Doctrine Command installations was completed. National Guard Bureau milestones are also being finalized. CAM is currently supporting unforecasted mobilization training at 100 percent.

Additionally, the command has organized into four regions, similar to the Installation Management

The CAM concept begins and ends with the warfighter.

Training authorizations and basic load requirements are assessed against stock on hand to determine correct stockage levels.

Agency. JMC DMCs and the ASPs fall within each region. The supplier (ASP) and the customer (unit) build a working relationship that increases cooperation and builds trust. The regions and their corresponding relationships are not set in stone. They will require continual analysis to determine optimum support.

The Strategic Munitions Distribution Network concept works hand-in-hand with CAM. CAM transportation initiatives include:



Pallets of 2,000-pound aerial bombs await transport to the Iraqi theater of operations from McAlester Army Ammunition Plant. (Photo by Jerri Mabrey.)



A McAlister Army Ammunition Plant forklift driver moves a pallet of 2,000-pound aerial bombs that were produced to support *Operation Iraqi Freedom*. (Photo by Jerri Mabrey.)

- Consolidation of truckloads going to the ASPs. Fewer trucks with more tons per truck will result in cost savings after the stockpile is fully redistributed. Full truck load cost is \$120/ton versus less than load cost at \$933/ton. JMC is aggressively working toward an optimal regional distribution plan.
- Load planning for advance notice of inbound trucks to ASPs.
- Identification of future workload planning for the DMCs and ASPs.

## ABL

An ABL planning tool is under development that will help define regional stockage levels. JMC and FORSCOM worked with Blue Grass Army Depot and the 3rd Infantry Division (Mechanized), Fort Stewart, GA, to develop a baseline and test a process comparing a unit's ABL requirement against JMC assets. The process began with outputs from the Department of Army Ammunition Requirement Tool identifying the unit's validated requirement. The baseline will provide the quantity of ammunition by item, the outload configuration (pallet, crop, container), the deployment destination (port, airport) and the expected time phasing. Once this baseline is defined for all units by region, it will be provided to higher headquarters for determination of "protect levels" and identification of

associated risks. The results will be used as input to the overall CAM Distribution Model. Information analysis will provide the program executive office/product managers with asset profiles on key programs for incorporation into procurement appropriation cycles.

In a separate effort, a CAM distribution model is being developed to support a regionalization strategy for ammunition training, basic load and war reserve. The National Level Ammunition Capability (NLAC), developed by Science Applications International Corp., is the system chosen for this effort. NLAC is a Web-based, Oracle® relational database currently used by key Joint and service logistics staffs, and interfaces with Army, Navy, Marine Corps, Air Force and U.S. Transportation Command databases to provide Joint worldwide asset visibility. Much of the data required for the CAM distribution model already resides in NLAC. Support with the contract vehicle and funding from HQDA and the Army Materiel Command greatly facilitated progress on the model. By using requirement data for basic load and training, along with the Joint worldwide asset posture, estimated delivery of a baseline distribution plan is summer 2004.

Moving ahead, incorporating "what-if" capability and developing the OCONUS

and Joint distribution processes will continue. The model's utility will allow the Army to balance its assets by region, direct production/reset/retrograde, redistribute excess munitions effectively and minimize ASP storage space requirements. It will also help determine where new production contracts will ship future ammunition supplies and feed into the procurement appropriation cycle.

HQDA strategy calls for the Army to have enough ammunition on hand to meet requirements in peacetime, support two major regional contingencies and replenish the stockpile following those conflicts. Major concerns are that there is not enough ammunition on hand to meet this demand and that the current ammunition stockpile is becoming outdated with significant shortages for modern "smart" munitions for current and future conflicts. These concerns reinforce the need for tools like MRR and CAM to assess the readiness of what we have and make informed decisions as to where it is most needed.

**BG JAMES W. RAFFERTY** is the JMC Commanding General, Rock Island, IL. He holds a B.A. in history from Syracuse University. His military education includes the Army War College and the Army Command and General Staff College.

**JAY SLOAT** is a Systems Management Specialist in JMC's MMR Division. He has a B.A. in psychology from Cornell College and more than 20 years of ammunition production and supply experience.

**CINDY LINGER** is JMC's Chief for Centralized Ammunition Management at Rock Island. She has a B.S. in law enforcement administration from Western Illinois University and is pursuing a master's in leadership. Linger is Level II certified in production, quality and manufacturing and is Level I certified in logistics.